

25 TEXAS ADMINISTRATIVE CODE

§289.254 (TRCR Part 44)

Licensing of Radioactive Waste Processing and Storage Facilities

Texas Regulations for Control of Radiation

(effective October 1, 1995)

	<u>Page</u>
§289.254(a) Purpose and Scope	254-1
(effective March 1, 1998)	
§289.254(b) Definitions	254-1
(effective March 1, 1998)	
§289.254(c) Activities Requiring License	254-4
(effective March 1, 1998)	
§289.254(d) Radioactive Waste Processing and Storage Facility Classification . .	254-4
(effective March 1, 1998)	
§289.254(e) Exemptions	254-4
(effective March 1, 1998)	
§289.254(f) Filing Application for Specific License	254-5
(effective March 1, 1998)	
§289.254(g) Application Requirements	254-7
DECOMMISSIONING	
§289.254(h) Financial Assurance and Record Keeping for Decommissioning . . .	254-10
(effective March 1, 1998)	
EMERGENCY PLAN	
§289.254(i) Emergency Plan for Responding to a Release	254-14
(effective March 1, 1998)	
§289.254(j) Additional Environmental Requirements for Class III Facilities . . .	254-16
(effective March 1, 1998)	
§289.254(k) Issuance of License	254-17
§289.254(l) Commencement of Major Construction	254-17
§289.254(m) Commencement of Operations	254-17
§289.254(n) Specific Terms and Conditions to License	254-17
(effective March 1, 1998)	
§289.254(o) Expiration of License	254-19
§289.254(p) Renewal of License	254-19
§289.254(q) Amendment of License at Request of Licensee	254-19
§289.254(r) Agency Action on Application to Renew or Amend	254-19
§289.254(s) Modification, Revocation, and Termination of Licenses	254-20

(March 1998)

§289.254 (TRCR Part 44)

Licensing of Radioactive Waste Processing and Storage Facilities (Continued)

	<u>Page</u>
§289.254(t) Site Suitability Criteria	254-20
(effective March 1, 1998)	
§289.254(u) Minimum Criteria for Facility Design and Operation	254-20
(effective March 1, 1998)	
§289.254(v) Waste Processing and Packaging Requirements	254-21
§289.254(w) Environmental Assessment	254-22
(effective March 1, 1998)	
§289.254(x) Waste Processing and Storage Categories of Radionuclides	254-22
(effective March 1, 1998)	

(March 1998)

25 TEXAS ADMINISTRATIVE CODE

§289.254. Licensing of Radioactive Waste Processing And Storage Facilities.

(a) Purpose and scope.

(1) This section establishes the requirements for management of commercial radioactive waste processing and storage facilities, the procedures and criteria for the issuance of licenses to receive, possess, transport, store, and process radioactive waste from other persons, and the terms and conditions upon which the agency will issue such licenses.

(2) Except as otherwise provided, this section applies to all persons who transport, receive, possess, store, or process radioactive waste from other persons. In addition to the requirements of this section, all licensees, unless otherwise specified, are subject to the requirements of §289.112 of this title (relating to Hearing and Enforcement Procedures), §289.114 of this title (relating to Notices, Instructions, and Reports to Workers; Inspections), §289.201 of this title (relating to General Provisions), §289.202 of this title (relating to Standards for Protection Against Radiation), §289.204 of this title (relating to Fees for Certificates of Registration, Radioactive Material(s) Licenses, Emergency Planning and Implementation, and Other Regulatory Services), §289.252 of this title (relating to Licensing of Radioactive Material), and §289.257 of this title (relating to Packaging and Transportation of Radioactive Material).

(b) Definitions. The following words and terms when used in this section shall have the following meanings, unless the context clearly indicates otherwise.

(1) Commencement of major construction - Any major structural erection or major alterations to existing structures, or other substantial action that would change the facility design or site for the purpose of establishing a radioactive waste processing or storage facility. The term does not mean the acquisition of existing structures or minor changes thereto.

(2) Decommissioning - The final activities carried out at a radioactive waste processing or storage site after completion of processing operations to remove safely from service and reduce residual radioactivity to a level that permits release of the property for unrestricted use and/or termination of the license. Such activities shall include:

- (A) disposing of all radioactive waste at a licensed radioactive waste disposal site;
- (B) dismantling or decontaminating site structures;
- (C) decontaminating site surfaces and remaining equipment; and
- (D) conducting final closure surveys, decontamination, and reclamation of the site.

§289.254(b)(3)

(3) Disposal - Isolation or removal of radioactive wastes from mankind and his environment. The term does not include emissions and discharges under rules of the agency.

(4) Engineered barriers - Man-made devices to contain or limit the potential movement of radioactive material, which might result from spills or other accidents.

(5) Floodplain - The lowland and relatively flat areas adjoining inland and coastal waters, including flood prone areas of off-shore islands.

(6) Local government - A county, an incorporated city or town, a special district, or other political subdivision of the state.

(7) Major aquifer - An aquifer which yields large quantities of water in a comparatively large area of the state. Major aquifers are located in the following formations: Ogallala, Alluvium and Bolson Deposits, Edwards-Trinity (Plateau), Edwards (Balcones Fault Zone - San Antonio Region), Edwards (Balcones Fault Zone - Austin Region), Trinity Group, Carrizo-Wilcox, and Gulf Coast.

(8) Natural barriers - The natural characteristics of a site or surface and subsurface composition that serves to impede the movement of radioactive material. Natural barriers may include, for example, the location of a facility remote from an aquifer, or the sorptive capability of the soil surrounding a facility.

(9) Person affected - A person:

(A) who is a resident of a county, or a county adjacent to the county, in which radioactive materials subject to the Texas Radiation Control Act (Act) are/or will be located, including any person who is doing business or who has a legal interest in land in the county or adjacent county, and any local government in the county; and

(B) who shall demonstrate that he has suffered or will suffer actual injury or economic damage.

(10) Processing - The storage, extraction of materials, transfer, volume reduction, compaction, incineration, solidification, or other separation and preparation of radioactive waste from other persons for reuse or disposal, including any treatment or activity that renders the waste less hazardous, safer for transport, or amenable to recovery, storage, or disposal.

(11) Radioactive waste processing facility - A facility where radioactive waste received from other persons is processed and repackaged according to United States Department of Transportation (DOT) regulations.

§289.254(b)(12)

(12) Radioactive waste storage facility - A facility where radioactive waste received from other persons and packaged according to DOT regulations is stored while awaiting shipment to a licensed radioactive waste processing or disposal facility.

(13) Reconnaissance level information - Any information or analysis that can be retrieved or generated without the performance of new comprehensive site-specific investigations. Reconnaissance level information includes, but is not limited to, relevant published scientific literature; drilling records required by state agencies, such as the Railroad Commission of Texas, the Texas Natural Resource Conservation Commission (Commission), and the Texas Natural Resources Information System; and reports of governmental agencies.

(14) Site - The real property, including the buffer zone, on which a radioactive waste processing or storage facility may be located.

(15) Site monitoring - The procedures for the monitoring of the site and environment to assess quality of site operations and performance and to detect and quantify levels and types of radioactivity and chemicals in the environment. It includes preoperational, operational, and license termination phases.

(16) Site operations - The routine day-to-day activities carried out at the site for the receipt, processing, and storage of radioactive waste.

(17) Site suitability - The capability of the various characteristics of a processing or storage facility or site to safely contain the radioactive waste expected to be present at the site.

(18) Sole source aquifer - The aquifer which is the sole or principal source of drinking water for an area designated under the Safe Drinking Water Act of 1974, 42 United States Codes Annotated 300f, et seq.

(19) Waste processing and storage categories - Radionuclides classified as follows:

(A) Any one of seven groups into which radionuclides in normal form are classified, according to their toxicity and their relative potential hazard in transport, as specified in subsection (x) of this section.

(B) Any radionuclide not specifically listed in one of the categories in subsection (x) of this section shall be assigned to one of the categories in accordance with subsection (x)(2) of this section.

§289.254(b)(20)

(20) Wetlands - Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that, under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include playa lakes, swamps, marshes, bogs, and similar areas.

(c) Activities requiring license. Except for persons exempted by this section, no person shall receive, possess, and store or process radioactive waste from another person except as authorized in a specific license issued in accordance with this section.

(d) Radioactive waste processing and storage facility classification.

(1) Classification of radioactive waste processing and storage facilities. Radioactive waste processing and storage facilities are classified according to the radionuclides, other than sealed sources, received, possessed, or processed in each of the waste processing and storage categories, as defined in subsection (b) of this section with all applicable provisions, except that, for the purposes of this section which apply to processing and storage of radioactive waste, Category IV shall include waste processing and storage categories IV-VII. The total possession limit of each category of unsealed (dispersible) radionuclides for each class of facility is as follows:

	Category I	Category II	Category III	Category IV
Class I Storage or Processing Facility	10 mCi	100 mCi	1 Ci	10 Ci
Class II Storage Facility	2 Ci	20 Ci	200 Ci	2000 Ci
Class II Processing Facility	1 Ci	10 Ci	100 Ci	1000 Ci

(2) Class III storage facilities are those in which the applicable possession limit of radioactive waste exceeds any limit of class II storage facilities.

(3) Class III processing facilities are those in which the applicable possession limit of radioactive waste exceeds any limit of class II processing facilities.

(e) Exemptions.

(1) Sealed sources. Persons who receive, possess, or process sealed sources of radioactive material as radioactive waste from other persons are exempt from this section, provided that:

(A) encapsulated sources are tested upon receipt and determined to have less than 0.005 microcurie of removable contamination; and

§289.254(e)(1)(B)

(B) sealed sources of radioactive material remain in sealed form after receipt.

(2) Unsealed sources.

(A) Persons who receive, possess, or process sources of radioactive material in unsealed form as radioactive waste from other persons are exempt from this section, provided that:

(i) the total radioactivity of all radioactive waste possessed at any one time does not exceed the applicable limits for class I processing or storage facilities as described in subsection (d) of this section; and

(ii) the total volume of radioactive waste processed in any one year does not exceed 50 cubic feet.

(B) Persons who receive, possess, and store radioactive material in unsealed form as radioactive waste from other persons are exempt from this section provided that:

(i) the radioactive waste consists only of radiopharmaceutical residues resulting from radiopharmaceuticals manufactured, compounded, and supplied by those persons receiving the radiopharmaceutical residues as radioactive waste;

(ii) the radioactive waste is held in storage for decay to background radiation levels; and

(iii) the radioactive waste is not shipped to a radioactive waste processing or disposal facility.

(3) Radioactive material. A person who receives, possesses, and stores radioactive material as radioactive waste from sites owned and controlled by that same person is not considered to have received waste from other persons.

(f) Filing application for specific license.

(1) The applicant for a license to receive, possess, or process radioactive waste from other persons shall submit, on a form supplied by the agency, 10 copies of each license application or application for amendment and any supporting documents. Applications for issuance of licenses shall include all general and specific technical requirements, financial information, and environmental requirements, if applicable, described in this section.

§289.254(f)(2)

(2) The agency may at any time after the submission of the original application, and before the expiration of the license, require further statements or data to enable the agency to determine whether the application should be denied or whether a license should be granted, modified, or revoked.

(3) The applicant or licensee or a person legally authorized to act for and on his behalf shall sign each application.

(4) An application for a license may include a request for one or more of the activities specified in paragraph (1) of this subsection.

(5) The applicant shall submit any applicable fees prescribed in this chapter.

(6) In the application, the applicant may incorporate by reference information contained in previous applications, statements, or reports filed with the agency provided such references are clear and specific.

(7) Applications or documents submitted to the agency in connection with licensing actions shall be made available for public inspection in accordance with provisions of the Texas Public Information Act, Government Code, Chapter 552. If the application contains information of the type described in the Texas Public Information Act which, the applicant wishes withheld from public disclosure, such information shall be submitted with the application under separate cover, along with a justification for withholding the information.

(8) Each application must clearly demonstrate how the requirements of this subsection and subsections (g), (h), (i), (j), (t), and (u) of this section have been addressed.

(9) If the applicant is a corporation under the Texas Business Corporation Act, written verification (either affidavit or tax receipt) shall be submitted with application to confirm that no tax owed the state is delinquent under Tax Code, Chapter 171.

(10) Applications for licenses shall be processed in accordance with the following time periods.

(A) The first period is a time from receipt of an application by the Division of Licensing, Registration and Standards to the date of issuance or denial of the license or a written notice outlining why the application is incomplete or unacceptable. This time period is 90 days.

(B) The second period is a time from receipt of the last item necessary to complete the application to the date of issuance or denial of the license. This time period is 90 days.

§289.254(f)(10)(C)

(C) These time periods are exclusive of any time period incident to hearings and post-hearing activities required by Government Code, Chapters 2001 and 2002.

(11) Notwithstanding the provisions of §289.204(e)(1) of this title, reimbursement of application fees may be granted in the following manner.

(A) In the event the application is not processed in the time periods as stated in paragraph (10) of this subsection, the applicant has the right to request of the director of the Radiation Control Program full reimbursement of all application fees paid in that particular application process. If the director does not agree that the established periods have been violated or finds that good cause existed for exceeding the established periods, the request will be denied.

(B) Good cause for exceeding the period established is considered to exist if:

(i) the number of applications for licenses to be processed exceeds by 15% or more the number processed in the same calendar quarter the preceding year;

(ii) another public or private entity utilized in the application process caused the delay; or

(iii) other conditions existed giving good cause for exceeding the established periods.

(C) If the request for full reimbursement authorized by subparagraph (A) of this paragraph is denied, the applicant may then request a hearing by appeal to the Commissioner of Health for a resolution of the dispute. The appeal will be processed in accordance with the Formal Hearing Procedures, §1.21-1.34 of this title (relating to the Texas Board of Health).

(g) Application requirements. An applicant for a license under this section shall include the following information in the application to the agency:

(1) identity of the applicant including the full name, address, telephone number, and description of the business(es) or occupation(s) of the applicant;

(2) the organizational structure of the applicant, both off-site and on-site, including a description of lines of authority and assignments of responsibilities, whether in the form of administrative directives, contract provisions, or otherwise;

§289.254(g)(3)

(3) a description of past operations that the applicant has been involved in including any license limitations, suspensions or revocations of such licenses, and any other information that will allow the agency to assess the applicant's past operating history;

(4) the technical qualifications, including training and experience, of the applicant and members of the applicant's staff to engage in the proposed activities; and minimum training and experience requirements for personnel;

(5) a description of the personnel training and retraining program;

(6) a statement of need and a description of the proposed activities identifying:

(A) the location of the proposed site;

(B) the character of the proposed activities;

(C) the types, chemical and/or physical forms and quantities of radioactive waste to be received, possessed, and processed; and

(D) the plans for use of the facility for purposes other than processing of radioactive waste;

(7) proposed time schedules for construction and receipt and processing of radioactive waste at the proposed facility;

(8) description of the site and accurate drawings of the facility including, but not limited to:

(A) construction;

(B) foundation details;

(C) ventilation;

(D) plumbing and fire suppression systems;

(E) physical security system;

(F) storage areas;

(G) radioactive waste handling or processing areas;

§289.254(g)(8)(H)

- (H) proximity to creeks or culverts; and
- (I) soil types under facility with respect to compatibility with foundation and structural design;
- (9) a flow diagram of radioactive waste processing operations;
- (10) a description and accurate drawings of processing equipment and any required special handling techniques to be employed;
- (11) a description of personnel monitoring methods, training, and procedures to be followed to keep employees from ingesting and inhaling radioactive materials, including a description of methods to keep the radiation exposure to levels as low as reasonably achievable;
- (12) a description of the site monitoring program to include prelicense data and proposed operational and postlicense monitoring programs for direct gamma radiation measurements and radioactive and chemical characteristics of the soils, groundwater, surface waters, and vegetation, as applicable;
 - (A) for radioactive waste storage facilities, the applicant shall address on-site air quality; and
 - (B) for radioactive waste processing facilities, the applicant shall address on-site and off-site air quality;
- (13) spill detection and cleanup plans for the licensed site and for associated transportation of radioactive material;
- (14) an Operating, Safety, and Emergency procedures manual that shall provide detailed procedures for receiving, handling, storing, processing, and shipping radioactive waste;
- (15) for radioactive waste processing facilities, a description of the equipment to be installed to maintain control over maximum concentrations of radioactive materials in gaseous and liquid effluents produced during normal operations and the means to be employed for keeping levels of radioactive material in effluents to unrestricted areas as low as reasonably achievable and within the limits listed in §289.202 of this title; and
- (16) methods of ultimate disposal and decommissioning, and the system for maintaining inventory of receipt, storage, and transfer of radioactive waste.

§289.254(h)

(h) Financial assurance and record keeping for decommissioning.

(1) The applicant for each specific license authorizing the receipt, possession, transport, storage, and processing of radioactive waste from other persons with a half-life greater than 120 days and in quantities exceeding 10^5 times the applicable quantities set forth in §289.252(w)(6) of this title shall submit a decommissioning funding plan as described in paragraph (5) of this subsection. The decommissioning funding plan must also be submitted when a combination of isotopes is involved if R divided by 10^5 is greater than 1 (unity rule), where R is defined as the sum of the ratios of the quantity of each isotope to the applicable value in §289.252(w)(6) of this title.

(2) The applicant for each specific license authorizing receipt, possession, transport, storage, and processing of radioactive waste from other persons with a half-life greater than 120 days and in quantities specified in paragraph (4) of this subsection shall either:

(A) submit a decommissioning funding plan as described in paragraph (5) of this subsection; or

(B) submit a certification that financial assurance for decommissioning has been provided in the amount prescribed by paragraph (4) of this subsection using one of the methods described in paragraph (6) of this subsection. For an applicant, this certification may state that the appropriate assurance will be obtained after the application has been approved and the license issued, but prior to the receipt of radioactive waste. If the applicant defers execution of the financial instrument until after the license has been issued, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (6) of this subsection shall be submitted to the agency before receipt of radioactive waste. If the applicant does not defer execution of the financial instrument, as part of the certification, a signed original of the financial instrument obtained to satisfy the requirements of paragraph (6) of this subsection is to be submitted to the agency.

(3) The holder of each specific license issued:

(A) on or after March 1, 1995, which is of a type described in paragraph (1) or (2) of this subsection, shall provide financial assurance for decommissioning in accordance with the criteria set forth in this section;

(B) before March 1, 1995, and of a type described in paragraph (1) of this subsection shall submit, on or before March 1, 1996, a decommissioning funding plan or a certification of financial assurance for decommissioning in an amount at least equal to \$750,000, in accordance with the criteria set forth in this section. If the licensee submits the certification of financial assurance rather than a decommissioning funding plan at this time, the licensee shall include a decommissioning funding plan in any application for license renewal; or

§289.254(h)(3)(C)

(C) before March 1, 1995, and of a type described in paragraph (2) of this subsection shall submit, on or before March 1, 1996, a certification of financial assurance for decommissioning or a decommissioning funding plan in accordance with the criteria set forth in this section.

(4) The required amounts of financial assurance for decommissioning are determined by quantity of material and are as follows:

(A) \$750,000 for quantities of material greater than 10^4 but less than or equal to 10^5 times the applicable quantities in §289.252(w)(6) of this title in unsealed form. (For a combination of isotopes, if R, as defined in paragraph (1) of this subsection, divided by 10^4 is greater than 1 but R divided by 10^5 is less than or equal to 1.);

(B) \$150,000 for quantities of material greater than 10^3 but less than or equal to 10^4 times the applicable quantities in §289.252(w)(6) of this title in unsealed form. (For a combination of isotopes, if R, as defined in paragraph (1) of this subsection, divided by 10^3 is greater than 1 but R divided by 10^4 is less than or equal to 1.); or

(C) \$75,000 for quantities of material greater than 10^{10} times the applicable quantities in §289.252(w)(6) of this title in sealed sources or plated foils. (For a combination of isotopes, if R, as defined in paragraph (1) of this subsection, divided by 10^{10} is greater than 1.)

(5) Each decommissioning funding plan must contain a cost estimate for decommissioning and a description of the method of assuring funds for decommissioning from paragraph (6) of this subsection, including means of adjusting cost estimates and associated funding levels periodically over the life of the facility. The decommissioning funding plan shall also contain a certification by the licensee that financial assurance for decommissioning has been provided in the amount of the cost estimate for decommissioning and a signed original of the financial instrument obtained to satisfy the requirements of paragraph (6) of this subsection.

(6) Financial assurance for decommissioning must be provided by one or more of the following methods.

(A) Prepayment. Prepayment is the deposit prior to the start of operation into an account segregated from licensee assets and outside the licensee's administrative control of cash or liquid assets such that the amount of funds would be sufficient to pay decommissioning costs. Prepayment may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities.

§289.254(h)(6)(B)

(B) A surety method, insurance, or other guarantee method. These methods guarantee that decommissioning costs will be paid. A surety method may be in the form of a surety bond, letter of credit, or line of credit. A parent company guarantee of funds for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in §289.252(w)(3) of this title. A parent company guarantee may not be used in combination with other financial methods to satisfy the requirements of this section. A guarantee of funds by the applicant or licensee for decommissioning costs based on a financial test may be used if the guarantee and test are as contained in §289.252(w)(7) of this title. A guarantee by the applicant or licensee may not be used in combination with any other financial methods to satisfy the requirements of this section or in any situation where the applicant or licensee has a parent company holding majority control of the voting stock of the company. Any surety method or insurance used to provide financial assurance for decommissioning must contain the following conditions.

(i) The surety method or insurance must be open-ended or, if written for a specified term, such as five years, must be renewed automatically unless 90 days or more prior to the renewal date, the issuer notifies the agency, the beneficiary, and the licensee of its intention not to renew. The surety method or insurance must also provide that the full face amount be paid to the beneficiary automatically prior to the expiration without proof of forfeiture if the licensee fails to provide a replacement acceptable to the agency within 30 days after receipt of notification of cancellation.

(ii) The surety method or insurance must be payable to a trust established for decommissioning costs. The trustee and trust must be acceptable to the agency. An acceptable trustee includes an appropriate state or federal government agency or an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

(iii) The surety method or insurance must remain in effect until the agency has terminated the license.

(C) External sinking fund. An external sinking fund in which deposits are made at least annually, coupled with a surety method or insurance, the value of which may decrease by the amount being accumulated in the sinking fund. An external sinking fund is a fund established and maintained by setting aside funds periodically in an account segregated from licensee assets and outside the licensee's administrative control in which the total amount of funds would be sufficient to pay decommissioning costs at the time termination of operation is expected. An external sinking fund may be in the form of a trust, escrow account, government fund, certificate of deposit, or deposit of government securities. The surety or insurance provisions must be as stated in subparagraph (B) of this paragraph.

§289.254(h)(6)(D)

(D) Statement of intent. In the case of federal, state, or local government licensees, a statement of intent containing a cost estimate for decommissioning or an amount in accordance with paragraph (4) of this subsection, and indicating that funds for decommissioning will be obtained when necessary.

(7) Each person licensed under this section shall keep records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the agency. If records of relevant information are kept for other purposes, reference to these records and their locations may be used. Information the agency considers important to decommissioning consists of the following:

(A) records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas, as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations;

(B) as-built drawings and modifications of structures and equipment in restricted areas where radioactive waste is processed and/or stored, and of locations of possible inaccessible contamination such as buried pipes that may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations;

(C) except for areas containing only sealed sources (provided the sources have not leaked or no contamination remains after any leak) or byproduct materials having only half-lives of less than 65 days, a list contained in a single document and updated every two years, of the following:

(i) all areas outside of restricted areas that require documentation under subparagraph (A) of this paragraph; and

(ii) all areas outside of restricted areas where current and previous wastes have been buried as documented under §289.202(tt) of this title; and

(D) Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.

§289.254(h)(8)

(8) Any licensee who has submitted an application before January 1, 1995, for renewal of license in accordance with this section shall provide financial assurance for decommissioning in accordance with paragraphs (1) and (2) of this subsection. This assurance shall be submitted when this section becomes effective March 1, 1998.

(i) Emergency plan for responding to a release.

(1) A new or renewal application for each specific license authorizing the receipt, possession, transport, storage, and processing of radioactive waste from other persons in excess of the quantities in §289.252(w)(4) of this title must contain either:

(A) an evaluation showing that the maximum dose to a person offsite due to a release of radioactive materials would not exceed 1 rem effective dose equivalent or 5 rems to the thyroid; or

(B) an emergency plan for responding to a release of radioactive waste.

(2) One or more of the following factors may be used to support an evaluation submitted in accordance with paragraph (1)(A) of this subsection:

(A) the radioactive waste is physically separated so that only a portion could be involved in an accident;

(B) all or part of the radioactive waste is not subject to release during an accident because of the way it is stored or packaged;

(C) the release fraction in the respirable size range would be lower than the release fraction shown in §289.252(w)(4) of this title due to the chemical or physical form of the waste;

(D) the solubility of the radioactive waste would reduce the dose received;

(E) facility design or engineered safety features in the facility would cause the release fraction to be lower than shown in §289.252(w)(4) of this title;

(F) operating restrictions or procedures would prevent a release fraction as large as that shown in §289.252(w)(4) of this title; or

(G) other factors appropriate for the specific facility.

§289.254(i)(3)

(3) An emergency plan for responding to a release of radioactive waste submitted in accordance with paragraph (1)(B) of this subsection must include the following information:

- (A) a brief description of the licensee's facility and area near the site;
- (B) an identification of each type of radioactive waste accident for which protective actions may be needed;
- (C) a classification system for classifying accidents as alerts or site area emergencies;
- (D) identification of the means of detecting each type of accident in a timely manner;
- (E) a brief description of the means and equipment for mitigating the consequences of each type of accident, including those provided to protect workers onsite, and a description of the program for maintaining the equipment;
- (F) a brief description of the methods and equipment to assess releases of radioactive waste;
- (G) a brief description of the responsibilities of licensee personnel should an accident occur, including identification of personnel responsible for promptly notifying offsite response organizations and the agency; also, responsibilities for developing, maintaining, and updating the plan;
- (H) a commitment to and a brief description of the means to promptly notify offsite response organizations and request offsite assistance, including medical assistance for the treatment of contaminated injured onsite workers when appropriate. A control point must be established. The notification and coordination must be planned so that unavailability of some personnel, parts of the facility, and some equipment will not prevent the notification and coordination. The licensee shall also commit to notify the agency immediately after notification of the appropriate offsite response organizations and not later than one hour after the licensee declares an emergency. These reporting requirements do not supersede or release licensees of complying with the requirements under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Publication L. 99-499 or other state or federal reporting requirements;
- (I) a brief description of the types of information on facility status, radioactive releases, and recommended protective actions, if necessary, to be given to offsite response organizations and to the agency;

§289.254(i)(3)(J)

(J) a brief description of the frequency, performance objectives, and plans for the training that the licensee will provide workers on how to respond to an emergency, including any special instructions and orientation tours the licensee would offer to fire, police, medical, and other emergency personnel. The training shall familiarize personnel with site-specific emergency procedures. Also, the training shall thoroughly prepare site personnel for their responsibilities in the event of accident scenarios postulated as most probable for the specific site, including the use of team training for such scenarios;

(K) a brief description of the means of restoring the facility to a safe condition after an accident;

(L) provisions for conducting quarterly communications checks with offsite response organizations and biennial onsite exercises to test response to simulated emergencies. Quarterly communications checks with offsite response organizations must include the check and update of all necessary telephone numbers. The licensee shall invite offsite response organizations to participate in the biennial exercises. Participation of offsite response organizations in biennial exercises, although recommended, is not required. Exercises must use accident scenarios postulated as most probable for the specific site and the scenarios shall not be known to most exercise participants. The licensee shall critique each exercise using individuals not having direct implementation responsibility for the plan. Critiques of exercises must evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response. Deficiencies found by the critiques must be corrected; and

(M) a certification that the applicant has met its responsibilities under the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Publication L. 99-499, if applicable to the applicant's activities at the proposed place of processing and/or storage of radioactive waste.

(4) The licensee shall allow the offsite response organizations expected to respond in case of an accident 60 days to comment on the licensee's emergency plan before submitting it to the agency. The licensee shall provide any comments received within the 60 days to the agency with the emergency plan.

(j) Additional environmental requirements for class III facilities. An application for a license for a class III processing or storage facility shall include environmental information which may be based on reconnaissance level information when appropriate and addresses the following:

(1) description of present land uses and population distribution in the vicinity of the site:

§289.254(j)(1)(A)

(A) for radioactive waste storage facilities, the description shall address properties adjacent to the site; and

(B) for radioactive waste processing facilities, the description shall address properties adjacent to the site and shall include population distribution within a one-mile radius of the site;

(2) area/site suitability including geology, hydrology, and natural hazards. For radioactive waste processing facilities, area meteorology also shall be addressed;

(3) site and project alternatives including alternative siting analysis;

(4) socioeconomic effects on surrounding communities of operation of the licensed activity and of associated transportation of radioactive material; and

(5) environmental effects of postulated accidents.

(k) Issuance of license. A license for a radioactive waste processing or storage facility will be issued if the agency finds reasonable assurance that:

(1) the proposed radioactive waste facility will be sited, designed, operated, decommissioned, and closed in accordance with this section; and

(2) the issuance of the license will not be inimical to the health and safety of the public or the environment.

(l) Commencement of major construction. Commencement of major construction is prohibited until 30 days after the agency has given notice that a license is to be granted or renewed, and the environmental analysis is available. If a hearing is requested, the commencement of major construction is prohibited until notice of the contested case hearing is noticed in accordance with the Act. Commencement of major construction subsequent to issuance of the notices is at the economic risk of the applicant.

(m) Commencement of operations. No licensee issued a license under this section may commence operations until the licensee has obtained licenses or permits from other agencies as required by law.

(n) Specific terms and conditions to license.

(1) Each license issued in accordance with this section shall be subject to all the provisions of the Act, now or hereafter in effect, and to all rules, regulations, and orders of the agency.

§289.254(n)(2)

(2) No license issued or granted under this section and no right to possess or utilize radioactive material granted by any license issued in accordance with this section shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of any license to any person unless the agency shall, after securing full information, find that the transfer is in accordance with the provisions of the Act, and shall give its consent in writing.

(3) Each person licensed by the agency in accordance with this section shall confine his use and possession of the material licensed to the locations and purposes authorized in the license.

(4) A license issued under this section shall include license conditions derived from the evaluations of the application and analyses performed by the agency, including amendments and changes made before a license is issued. License conditions may include but are not limited to items in the following categories:

(A) restrictions as to the total radioactive inventory of radioactive waste to be received;

(B) restrictions as to size, shape, and materials and methods of construction of radioactive waste packaging and maximum number of package units stored, at any one time;

(C) restrictions as to the physical and chemical form and radioisotopic content and concentration of radioactive waste;

(D) controls to be applied to restrict access to the site;

(E) controls to be applied to maintain and protect the health and safety of the public and site employees and the environment;

(F) administrative controls, which are the provisions relating to organization, management, and operating procedures; record-keeping, review and audit; and reporting necessary to assure that activities at the facility are conducted in a safe manner and in conformity with agency rules and license conditions; and

(G) maximum retention time for radioactive waste received at the facility.

(5) Each licensee shall notify the agency, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any Chapters of Title 11 (Bankruptcy) of the United States Code (11 U.S.C.) by or against:

§289.254(n)(5)(A)

- (A) a licensee;
 - (B) an entity (as that term is defined in 11 U.S.C. 101(14)) controlling a licensee or listing the license or licensee as property of the estate; or
 - (C) an affiliate (as that term is defined in 11 U.S.C. 101(2)) of the licensee.
- (6) The notification required in paragraph (5) of this subsection must indicate:
- (A) the bankruptcy court in which the petition for bankruptcy was filed;
- and
- (B) the date of the filing of the petition.
- (o) Expiration of license. Except as provided in subsection (p)(2) of this section, each specific license shall expire at the end of the day, in the month and year stated on the license.
- (p) Renewal of license.
- (1) Application for renewal of specific licenses shall be filed in accordance with subsection (f) of this section.
- (2) In any case in which a licensee, not less than 90 days prior to expiration of his existing license, has filed an application in proper form for renewal or for a new license authorizing the same activities, such existing license shall not expire until the agency has made a final determination on the application.
- (3) The licensee is responsible for decommissioning the facility and continued safe storage of any radioactive waste whether an application for continued receipt of wastes is filed or not.
- (q) Amendment of license at request of licensee. Applications for amendment of a license shall be filed in accordance with subsection (f) of this section, except that the requirements of subsection (f)(5) of this section may be waived at the discretion of the agency. Such applications shall also specify how the licensee desires his license to be amended and the basis for such amendment.
- (r) Agency action on application to renew or amend. In considering an application by a licensee to renew or amend his license, the agency will apply the criteria set forth in subsection (k) of this section.

§289.254(s)

(s) Modification, revocation, and termination of licenses.

(1) The terms and conditions of all licenses shall be subject to amendment, revision, or modification, or the license may be suspended or revoked by reason of amendments to the Act, or by reason of rules, regulations, and orders issued by the agency.

(2) Any license may be revoked, suspended, or modified, in whole or in part, for any material false statement in the application or any statement of fact required under provisions of the Act, or because of conditions revealed by such application or statement of fact or any report, record, or inspection, or other means which would warrant the agency to refuse to grant a license on an original application, or for violation of, or failure to observe any of the terms and conditions of the Act, or the license, or of any rule, regulation, or order of the agency.

(3) Except in cases of willfulness or an agency determination that an emergency exists in which the public health, interest, or safety requires otherwise, no license shall be modified, suspended, or revoked unless, prior to the institution of proceedings therefore, facts or conduct which may warrant such action shall have been called to the attention of the licensee in writing and the licensee shall have been afforded an opportunity to demonstrate or achieve compliance with all lawful requirements.

(4) The agency may terminate a specific license upon request submitted by the licensee to the agency in writing.

(t) Site suitability criteria. The following requirements specify the characteristics which a new site must have to be acceptable for licensure.

(1) The overall hydrogeologic environment of the site, in combination with engineering design, shall act to minimize and control potential radioactive waste migration into surface water and groundwaters.

(2) No new site shall be located in a 100-year floodplain, as designated by the Commission, or a wetland.

(3) No new site shall be located in the recharge area of a sole source aquifer or a major aquifer unless it can be demonstrated with reasonable assurance that the new site will be designed, constructed, operated, and closed without an unreasonable risk to the aquifer.

(u) Minimum criteria for facility design and operation.

(1) The building used for processing radioactive wastes shall have a minimum classification of Type II (111) in accordance with National Fire Protection Association 220 titled Standards Types of Building Construction.

§289.254(u)(1)(A)

(A) Buildings used for processing or storage of radioactive wastes shall have ventilation and fire protection systems to minimize the release of radioactive materials into the soils, waters, and the atmosphere.

(B) Facilities and equipment for repackaging leaking and/or damaged containers shall be provided.

(2) The design and operation of the radioactive waste processing or storage facility shall be such that:

(A) releases of non-radiological noxious materials from the facility are minimized; and

(B) radiation levels, concentrations, and potential exposures off-site due to airborne releases during operations are within the limits established in §289.202 of this title and are maintained as low as reasonably achievable.

(3) The design and operation of the radioactive waste processing or storage facility shall be compatible with the objectives of the site closure and decommissioning funding plan.

(4) The facility shall be designed to confine spills. Independent and diverse engineered barriers shall be provided, as necessary, to complement natural barriers in minimizing potential releases from the facility and in complying with this section.

(5) The location and construction of any new radioactive waste processing facility shall have a buffer zone adequate to permit emergency measures to be implemented following accidents and to address airborne plume dispersions and, as a minimum, shall be such that:

(A) the active components of a class II facility are located at least 30 meters from the nearest residence as of the date of the license application; and

(B) the active components of a class III facility are located at least 30 meters from the nearest property not owned or occupied by the licensee.

(v) Waste processing and packaging requirements. All processed radioactive waste offered for transport or disposal must meet:

(1) all applicable transportation requirements of the agency, the United States Nuclear Regulatory Commission, and of the DOT; and

§289.254(v)(2)

(2) all applicable disposal facility license conditions.

(w) Environmental assessment. A written analysis of the impact on the human environment will be prepared or secured by the agency for any license for a class III processing or storage facility and shall be available to the public for written comment at least 30 days prior to the beginning of a hearing, if any, on the issuance or renewal of the license.

(x) Waste processing and storage categories of radionuclides.

(1) The following table contains waste processing and storage categories of radionuclides.

Element*	Radionuclide**	Category
Actinium (89)	Ac-227	I
	Ac-228	I
Americium (95)	Am-241	I
	Am-243	I
Antimony (51)	Sb-122	IV
	Sb-124	III
	Sb-125	III
Argon (18)	Ar-37	VI
	Ar-41	II
	Ar-41 (uncompressed)†	V
Arsenic (33)	As-73	IV
	As-74	IV
	As-76	IV
	As-77	IV
Astatine (85)	At-211	III
Barium (56)	Ba-131	IV
	Ba-133	II
	Ba-140	III
Berkelium (97)	Bk-249	I
Beryllium (4)	Be-7	IV

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

† Uncompressed means at a pressure not exceeding 1 atmosphere.

Element*	Radionuclide**	Category
Bismuth (83)	Bi-206	IV
	Bi-207	III
	Bi-210	II
	Bi-212	III
Bromine (35)	Br-82	IV
Cadmium (48)	Cd-109	IV
	Cd-115m	III
	Cd-115	IV
Calcium (20)	Ca-45	IV
	Ca-47	IV
Californium (98)	Cf-249	I
	Cf-250	I
	Cf-252	I
Carbon (6)	C-14	IV
Cerium (58)	Ce-141	IV
	Ce-143	IV
	Ce-144	III
Cesium (55)	Cs-131	IV
	Cs-134m	III
	Cs-134	III
	Cs-135	IV
	Cs-136	IV
	Cs-137	III
	Cs-137	III
Chlorine (17)	Cl-36	III
	Cl-38	IV
Chromium (24)	Cr-51	IV
Cobalt (27)	Co-56	III
	Co-57	IV
	Co-58m	IV
	Co-58	IV
	Co-60	III

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

m Metastable state.

Element*	Radionuclide**	Category
Copper (29)	Cu-64	IV
Curium (96)	Cm-242	I
	Cm-243	I
	Cm-244	I
	Cm-245	I
	Cm-246	I
Dysprosium (66)	Dy-154	III
	Dy-165	IV
	Dy-166	IV
Erbium (68)	Er-169	IV
	Er-171	IV
Europium (63)	Eu-150	III
	Eu-152m	IV
	Eu-152	III
	Eu-154	II
	Eu-155	IV
Fluorine (9)	F-18	IV
Gadolinium (64)	Gd-153	IV
	Gd-159	IV
Gallium (31)	Ga-67	III
	Ga-72	IV
Germanium (32)	Ge-71	IV
Gold (79)	Au-193	III
	Au-194	III
	Au-195	III
	Au-196	IV
	Au-198	IV
	Au-199	IV
Hafnium (72)	Hf-181	IV
Holmium (67)	Ho-166	IV
Hydrogen (1)	H-3 (see tritium)	

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

m Metastable state.

Element*	Radionuclide**	Category
Indium (49)	In-113m	IV
	In-114m	III
	In-115m	IV
	In-115	IV
Iodine (53)	I-124	III
	I-125	III
	I-126	III
	I-129	III
	I-131	III
	I-132	IV
	I-133	III
	I-134	IV
	I-135	IV
	Ir-190	IV
Iridium (77)	Ir-192	III
	Ir-194	IV
	Fe-55	IV
Iron (26)	Fe-59	IV
Krypton (36)	Kr-85m	III
	Kr-85m (uncompressed)†	V
	Kr-85	III
	Kr-85 (uncompressed)†	VI
	Kr-87	II
	Kr-87 (uncompressed)†	V
Lanthanum (57)	La-140	IV
Lead (82)	Pb-203	IV
	Pb-210	II
	Pb-212	II
Lutetium (71)	Lu-172	III
	Lu-177	IV

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

m Metastable state.

† Uncompressed means at a pressure not exceeding 1 atmosphere.

Element*	Radionuclide**	Category
Magnesium (12)	Mg-28	III
Manganese (25)	Mn-52	IV
	Mn-54	IV
	Mn-56	IV
Mercury (80)	Hg-197m	IV
	Hg-197	IV
	Hg-203	IV
Mixed fission products (MFP)		II
Molybdenum (42)	Mo-99	IV
Neodymium (60)	Nd-147	IV
	Nd-149	IV
Neptunium (93)	Np-237	I
	Np-239	I
Nickel (28)	Ni-56	III
	Ni-59	IV
	Ni-63	IV
	Ni-65	IV
Niobium (41)	Nb-93m	IV
	Nb-95	IV
	Nb-97	IV
Osmium (76)	Os-185	IV
	Os-191m	IV
	Os-191	IV
	Os-193	IV
Palladium (46)	Pd-103	IV
	Pd-109	IV
Phosphorus (15)	P-32	IV
Platinum (73)	Pt-191	IV
	Pt-193	IV
	Pt-193m	IV
	Pt-197m	IV
	Pt-197	IV

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

m Metastable state.

Element*	Radionuclide**	Category
Plutonium (94)	Pu-238 F	I
	Pu-239 F	I
	Pu-240	I
	Pu-241 F	I
	Pu-242	I
Polonium (84)	Po-210	I
Potassium (19)	K-42	IV
	K-43	III
Praseodymium (59)	Pr-142	IV
	Pr-143	IV
Promethium (61)	Pm-147	IV
	Pm-149	IV
Protactinium (91)	Pa-230	I
	Pa-231	I
	Pa-233	II
	Pa-234	II
Radium (88)	Ra-223	II
	Ra-224	II
	Ra-226	I
	Ra-228	I
	Ra-229	I
Radon (86)	Rn-220	IV
	Rn-222	II
Rhenium (75)	Re-183	IV
	Re-186	IV
	Re-187	IV
	Re-188	IV
	Re-Natural	IV
Rhodium (45)	Rh-103m	IV
	Rh-105	IV
Rubidium (37)	Rb-86	IV
	Rb-87	IV
	Rb-Natural	IV

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

F Fissile material.

m Metastable state.

Element*	Radionuclide**	Category
Ruthenium (44)	Ru-97	IV
	Ru-103	IV
	Ru-105	IV
	Ru-106	III
Samarium (62)	Sm-145	III
	Sm-147	III
	Sm-151	IV
	Sm-153	IV
Scandium (21)	Sc-46	III
	Sc-47	IV
	Sc-48	IV
Selenium (34)	Se-75	IV
Silicon (14)	Si-31	IV
Silver (47)	Ag-105	IV
	Ag-110m	III
	Ag-111	IV
Sodium (11)	Na-22	III
	Na-24	IV
Strontium (38)	Sr-85m	IV
	Sr-85	IV
	Sr-89	III
	Sr-90	II
	Sr-91	III
	Sr-92	IV
Sulfur (16)	S-35	IV
Tantalum (73)	Ta-182	III
Technetium (43)	Tc-96m	IV
	Tc-96	IV
	Tc-97m	IV
	Tc-97	IV
	Tc-99m	IV
	Tc-99	IV

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

m Metastable state.

Element*	Radionuclide**	Category
Tellurium (52)	Te-125m	IV
	Te-127m	IV
	Te-127	IV
	Te-129m	III
	Te-129	IV
	Te-131m	III
	Te-132	IV
Terbium (65)	Tb-160	III
Thallium (81)	Tl-200	IV
	Tl-201	IV
	Tl-202	IV
	Tl-204	III
Thorium (90)	Th-227	II
	Th-228	I
	Th-230	I
	Th-231	I
	Th-232	III
	Th-234	II
	Th-Natural	III
Thulium (69)	Tm-168	III
	Tm-170	III
	Tm-171	IV
Tin (50)	Sn-113	IV
	Sn-117m	III
	Sn-121	III
Tritium (1)	Sn-125	IV
	H-3	IV
	H-3 (as a gas, as luminous paint, or adsorbed on solid material.)	VII

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

m Metastable state.

Element*	Radionuclide**	Category
Tungsten (74)	W-181	IV
	W-185	IV
	W-187	IV
Uranium (92)	U-230	II
	U-232	I
	U-233 F	II
	U-234	II
	U-235 F	III
	U-236	II
	U-238	III
	U-Natural	III
	U-Enriched F	III
	U-Depleted	III
Vanadium (23)	V-48	IV
	V-49	III
Xenon (54)	Xe-125	III
	Xe-131m	III
	Xe-131m (uncompressed)†	V
	Xe-133	III
	Xe-133 (uncompressed)†	VI
	Xe-135	II
	Xe-135(uncompressed)†	V
Ytterbium (70)	Yb-175	IV
Yttrium (39)	Y-88	III
	Y-90	IV
	Y-91m	III
	Y-91	III
	Y-92	IV
	Y-93	IV

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

F Fissile material.

† Uncompressed means at a pressure not exceeding 1 atmosphere.

m Metastable state.

§289.254(x)(1)

Element*	Radionuclide**	Category
Zinc (30)	Zn-65	IV
	Zn-69m	IV
	Zn-69	IV
Zirconium (40)	Zr-93	IV
	Zr-95	III
	Zr-97	IV

NOTE: For mixtures of radionuclides and for radionuclides not included in this subsection, see subsection (b) of this section, waste processing and storage categories.

* Atomic number shown in parentheses.

** Atomic mass number shown after the element symbol.

m Metastable state.

§289.254(x)(2)

(2) Any radionuclide not specifically listed in paragraph (1) of this section shall be assigned to one of the categories in accordance with the following table.

RADIOACTIVE HALF-LIFE			
Radionuclide	0 to 1000 days	1000 days to 10 ⁶ years	Over 10 ⁶ years
Atomic No. 1-81	Category III	Category II	Category III
Atomic No. 82 and over	Category I	Category I	Category III

(3) For mixtures of radionuclides, the following shall apply:

(A) If the identity and respective activity of each radionuclide are known, the permissible activity of each radionuclide shall be such that the sum, for all categories present, of the ratio between the total activity for each category to the permissible activity for each category will not be greater than unity.

(B) If the categories of the radionuclides are known but the amount in each category cannot be reasonably determined, the mixture shall be assigned to the most restrictive category present.

(C) If the identity of all or some of the radionuclides cannot be reasonably determined, each of those unidentified radionuclides shall be considered as belonging to the most restrictive category which cannot be positively excluded.

(D) Mixtures consisting of a single radioactive decay chain where the radionuclides are in the naturally occurring proportions shall be considered as consisting of a single radionuclide. The category and activity shall be that of the first member present in the chain, except that if radionuclide "X" has a half-life longer than that of that first member and an activity greater than that of any other member, including the first, at any time during processing, the waste processing and storage category shall be that of nuclide "X" and the activity of the mixture shall be the maximum activity of nuclide "X" during processing.

**Cross Reference Table for 25 Texas Administrative Code §289.254 and Equivalent
Texas Regulations for Control of Radiation (TRCR) Part 44 Formats**

§289.254

TRCR PART 44

(a)	44.1
(a)(1)	44.1(a)
(a)(2)	44.1(b)
(b)	44.2
(b)(1)-(20)	44.2
(c)	44.3
(d)	44.5
(d)(1)	44.5(a)
(d)(2)	44.5(a)
(d)(3)	44.5(a)
---	44.5(b)
	(has been deleted)
(e)	44.6
(e)(1)	44.6(a)
(e)(1)(A)	44.6(a)(1)
(e)(1)(B)	44.6(a)(2)
(e)(2)	44.6(b)
(e)(2)(A)	44.6(b)(1)
(e)(2)(A)(i)	44.6(b)(1)(i)
(e)(2)(A)(ii)	44.6(b)(1)(ii)
(e)(2)(B)	44.6(b)(2)
(e)(2)(B)(i)	44.6(b)(2)(i)
(e)(2)(B)(ii)	44.6(b)(2)(ii)
(e)(2)(B)(iii)	44.6(b)(2)(iii)
(e)(3)	44.6(c)
(f)	44.10
(f)(1)	44.10(a)
(f)(2)	44.10(b)
(f)(3)	44.10(c)
(f)(4)	44.10(d)
(f)(5)	44.10(e)
(f)(6)	44.10(f)
(f)(7)	44.10(g)(1)-(2)
(f)(8)	44.10(h)
(f)(9)	44.10(i)
(f)(10)	44.10(j)

§289.254**TRCR PART 44**

(f)(10)(A)	44.10(j)(1)
(f)(10)(B)	44.10(j)(2)
(f)(10)(C)	44.10(j)(3)
(f)(11)	44.10(k)
(f)(11)(A)	44.10(k)(1)
(f)(11)(B)	44.10(k)(2)
(f)(11)(B)(i)	44.10(k)(2)(i)
(f)(11)(B)(ii)	44.10(k)(2)(ii)
(f)(11)(B)(iii)	44.10(k)(2)(iii)
(f)(11)(C)	44.10(k)(3)
(g)	44.20
(g)(1)	44.20(a)
(g)(2)	44.20(b)
(g)(3)	44.20(c)
(g)(4)	44.20(d)
(g)(5)	44.20(e)
(g)(6)	44.20(f)
(g)(6)(A)	44.20(f)
(g)(6)(B)	44.20(f)
(g)(6)(C)	44.20(f)
(g)(6)(D)	44.20(f)
(g)(7)	44.20(g)
(g)(8)	44.20(h)
(g)(8)(A)	44.20(h)
(g)(8)(B)	44.20(h)
(g)(8)(C)	44.20(h)
(g)(8)(D)	44.20(h)
(g)(8)(E)	44.20(h)
(g)(8)(F)	44.20(h)
(g)(8)(G)	44.20(h)
(g)(8)(H)	44.20(h)
(g)(8)(I)	44.20(h)
(g)(9)	44.20(i)
(g)(10)	44.20(i)
(g)(11)	44.20(j)
(g)(12)	44.20(k)
(g)(12)(A)	44.20(k)(1)
(g)(12)(B)	44.20(k)(2)
(g)(13)	44.20(l)
(g)(14)	44.20(m)
(g)(15)	44.20(n)
(g)(16)	44.20(o)

(h)	44.30
(h)(1)	44.30(a)
(h)(2)	44.30(b)
(h)(2)(A)	44.30(b)(1)
(h)(2)(B)	44.30(b)(2)
(h)(3)	44.30(c)(1)
(h)(3)(A)	44.30(c)(1)
(h)(3)(B)	44.30(c)(2)
(h)(3)(C)	44.30(c)(3)
(h)(4)	44.30(d)
(h)(4)(A)	44.30(d)
(h)(4)(B)	44.30(d)
(h)(4)(C)	44.30(d)
(h)(5)	44.30(e)
(h)(6)	44.30(f)
(h)(6)(A)	44.30(f)(1)
(h)(6)(B)	44.30(f)(2)
(h)(6)(B)(i)	44.30(f)(2)(i)
(h)(6)(B)(ii)	44.30(f)(2)(ii)
(h)(6)(B)(iii)	44.30(f)(2)(iii)
(h)(6)(C)	44.30(f)(3)
(h)(6)(D)	44.30(f)(4)
(h)(7)	44.30(g)
(h)(7)(A)	44.30(g)(1)
(h)(7)(B)	44.30(g)(2)
(h)(7)(C)	---
(h)(7)(D)	44.30(g)(3)
(h)(8)	---
(i)	44.40
(i)(1)	44.40(a)
(i)(1)(A)	44.40(a)(1)
(i)(1)(B)	44.40(a)(2)
(i)(2)	44.40(b)
(i)(2)(A)	44.40(b)(1)
(i)(2)(B)	44.40(b)(2)
(i)(2)(C)	44.40(b)(3)
(i)(2)(D)	44.40(b)(4)
(i)(2)(E)	44.40(b)(5)
(i)(2)(F)	44.40(b)(6)
(i)(2)(G)	44.40(b)(7)
(i)(3)	44.40(c)
(i)(3)(A)	44.40(c)(1)

(i)(3)(B)	44.40(c)(2)
(i)(3)(C)	44.40(c)(3)
(i)(3)(D)	44.40(c)(4)
(i)(3)(E)	44.40(c)(5)
(i)(3)(F)	44.40(c)(6)
(i)(3)(G)	44.40(c)(7)
(i)(3)(H)	44.40(c)(8)
(i)(3)(I)	44.40(c)(9)
(i)(3)(J)	44.40(c)(10)
(i)(3)(K)	44.40(c)(11)
(i)(3)(L)	44.40(c)(12)
(i)(3)(M)	44.40(c)(13)
(i)(4)	44.40(d)
(j)	44.50
(j)(1)	44.50(a)
(j)(1)(A)	44.50(a)(1)
(j)(1)(B)	44.50(a)(2)
(j)(2)	44.50(b)
(j)(3)	44.50(c)
(j)(4)	44.50(d)
(j)(5)	44.50(e)
(k)	44.60
(k)(1)	44.60(a)
(k)(2)	44.60(b)
(l)	44.62
(m)	44.63
(n)	44.70
(n)(1)	44.70(a)
(n)(2)	44.70(b)
(n)(3)	44.70(c)
(n)(4)	44.70(d)
(n)(4)(A)	44.70(d)(1)
(n)(4)(B)	44.70(d)(2)
(n)(4)(C)	44.70(d)(3)
(n)(4)(D)	44.70(d)(4)
(n)(4)(E)	44.70(d)(5)
(n)(4)(F)	44.70(d)(6)
(n)(4)(G)	44.70(d)(7)
(n)(5)	44.70(e)(1)
(n)(5)(A)	44.70(e)(1)(i)
(n)(5)(B)	44.70(e)(1)(ii)

(n)(5)(C)	44.70(e)(1)(iii)
(n)(6)	44.70(e)(2)
(n)(6)(A)	44.70(e)(2)(i)
(n)(6)(B)	44.70(e)(2)(ii)
(o)	44.71
(p)	44.72
(p)(1)	44.72(a)
(p)(2)	44.72(b)
(p)(3)	44.72(c)
(q)	44.73
(r)	44.74
(s)	44.75
(s)(1)	44.75(a)
(s)(2)	44.75(b)
(s)(3)	44.75(c)
(s)(4)	44.75(d)
(t)	44.80
(t)(1)	44.80(a)
(t)(2)	44.80(b)
(t)(3)	44.80(c)
(u)	44.81
(u)(1)	44.81(a)
(u)(1)(A)	44.81(a)
(u)(1)(B)	44.81(a)
(u)(2)	44.81(b)
(u)(2)(A)	44.81(b)(1)
(u)(2)(B)	44.81(b)(2)
(u)(3)	44.81(c)
(u)(4)	44.81(d)
(u)(5)	44.81(e)
(u)(5)(A)	44.81(e)(1)
(u)(5)(B)	44.81(e)(2)
(v)	44.90
(v)(1)	44.90(a)
(v)(2)	44.90(b)
(w)	44.101
(x)	---
(x)(1)	---
(x)(2)	---
(x)(3)	---